

THAT WHICH IS CLAIMED IS:

1. A method for treating subjects having non-stuttering pathologies with impaired or decreased communication skills, comprising:

administering a frequency altered auditory feedback signal to a subject having a non-stuttering pathology while the subject is speaking or talking to thereby improve the subject's communication skills.

2. A method according to Claim 1, further comprising receiving an analog auditory signal of the subject at a first frequency, converting the signal to a digital signal in the frequency domain, altering the frequency of the digital signal within a range of about ± 2 octaves, converting the signal back to the time domain and into an analog signal, and then administering the frequency altered feedback signal to the user proximate in time to the receiving step.

3. A method according to Claim 1, wherein the step of administering the FAF signal comprises using a compact device that includes a housing that is supported by the ear of the user and devoid of external cabling during normal operation, and wherein the administered frequency altered auditory signal is shifted a desired amount within a range of between about ± 2 octaves.

4. A method according to Claim 3, wherein the device comprises at least one of a BTE, ITE, ITC, or CIC device.

5. A method according to Claim 1, wherein the subject has diagnosed learning disabilities ("LD").

6. A method according to Claim 5, wherein the subject non-stuttering pathology is a reading disability or impairment, and wherein the step of administering improves the reading ability of the subject.

7. A method according to Claim 1, wherein the subject non-stuttering pathology is dyslexia.

8. A method according to Claim 1, wherein the subject non-stuttering pathology is attention deficit disorder (“ADD”) and/or attention deficit hyperactivity disorder (“ADHD”).

9. A method according to Claim 1, wherein the subject non-stuttering pathology is autism.

10. A method according to Claim 1, wherein the subject non-stuttering pathology is schizophrenia.

11. A method according to Claim 1, wherein the subject non-stuttering pathology is a progressive degenerative neurological disease.

12. A method according to Claim 1, wherein the subject non-stuttering pathology is Parkinson’s disease.

13. A method according to Claim 1, wherein the subject non-stuttering pathology is Alzheimer’s disease.

14. A method according to Claim 1, wherein the subject non-stuttering pathology is a brain injury, impairment, or trauma.

15. A method according to Claim 1, wherein the subject non-stuttering pathology is dyslexia.

16. A method according to Claim 1, wherein the subject non-stuttering pathology is at least one of asphasia, dyspraxia, dysarthria, and dysphasia.

17. A method according to Claim 2, further comprising programmably adjusting the frequency shift alteration.

18. A method according to Claim 1, wherein the subject is a child of

pre-school age.

19. A method according to Claim 1, wherein the subject is a child of primary school age.

20. A method according to Claim 1, wherein the subject is a teenager.

21. A method according to Claim 1, wherein the subject is an adult.

22. A method according to Claim 21, wherein the subject is middle aged.

23. A method according to Claim 21, wherein the subject is elderly.

24. A method for treating subjects having non-stuttering pathologies or disorders presenting with an impairment or dysfunction in communication skills using frequency altered auditory feedback, comprising:

(a) positioning an ear-supported device devoid of external cabling during normal operation and configured to receive auditory signals associated with a subject's speech, in close proximity to at least one ear of an individual, the device being adapted to be in communication with at least one of the ear canals of the individual;

(b) receiving in the device an audio signal associated with the subject's speech;

(c) generating from the device a frequency altered auditory feedback signal having an associated frequency shift between about +/- 2 octaves relative to the received audio signal; and

(d) transmitting the frequency altered auditory feedback signal to at least one ear canal of the subject.

25. A method according to Claim 24, wherein the subject non-stuttering pathology is Parkinson's disease, and wherein the positioning and transmitting steps are carried out to provide a therapeutic treatment to improve the communication skills of the subject.

26. A method according to Claim 24, wherein the subject non-stuttering pathology is autism, and wherein the positioning and transmitting steps are carried out to provide a therapeutic treatment to improve the communication skills of the subject.

27. A method according to Claim 24, wherein the subject non-stuttering pathology is a reading disability or disorder, and wherein the positioning and transmitting steps are carried out to provide a therapeutic treatment to improve the reading skills of the subject.

28. A method according to Claim 24, wherein the subject non-stuttering pathology is aphasia, and wherein the positioning and transmitting steps are carried out to provide a therapeutic treatment to improve the communication skills of the subject.

29. A method according to Claim 24, wherein the subject non-stuttering pathology is dysarthria, and wherein the positioning and transmitting steps are carried out to provide a therapeutic treatment to improve the communication skills of the subject.

30. A method according to Claim 24, wherein the subject non-stuttering pathology is dyspraxia, and wherein the positioning and transmitting steps are carried out to provide a therapeutic treatment to improve the communication skills of the subject.

31. A method according to Claim 24, wherein the subject non-stuttering pathology is a diagnosed learning disability ("LD"), and the steps of positioning

and transmitting are performed as a therapeutic treatment to promote improved learning.

32. A method according to Claim 24, wherein the subject non-stuttering pathology is a reading disability or impairment, and wherein the steps of positioning and transmitting are carried out to provide a therapeutic treatment to improve the reading ability of the subject.

33. A method according to Claim 32, wherein the subject non-stuttering pathology is attention deficit disorder (“ADD”) and/or attention deficit hyperactivity disorder (“ADHD”).

35. A method according to Claim 24, wherein the subject non-stuttering pathology is schizophrenia, and wherein the steps of positioning and transmitting are carried out as a therapeutic treatment to improve the communication skills of the subject.

36. A method according to Claim 24, wherein the subject non-stuttering pathology is a progressive degenerative neurological disease, and wherein the steps of positioning and transmitting are carried out as a therapeutic treatment to improve the communication skills of the subject.

37. A method according to Claim 36, wherein the subject non-stuttering pathology is Alzheimer’s disease.

38. A method according to Claim 24, wherein the subject non-stuttering pathology is a brain injury, impairment, or trauma, and wherein the steps of positioning and transmitting are carried out as a therapeutic treatment to improve the communication skills of the subject.

39. A method according to Claim 24, further comprising programmably adjusting the frequency alteration at desired intervals.

40. A method according to Claim 32, wherein the subject is a child of pre-school age.

41. A method according to Claim 32, wherein the subject is a child of primary school age.

42. A method according to Claim 32, wherein the subject is a teenager.

43. A method according to Claim 32, wherein the subject is an adult.

44. A method according to Claim 24, wherein the subject is elderly.

45. A device for treating non-stuttering pathologies having impaired or decreased communication skills, comprising:

means for administering a frequency altered auditory feedback signal to a subject having a non-stuttering pathology while the subject is speaking and/or talking to thereby improve the subject's communication skills.

46. A device according to Claim 45, further comprising:

means for receiving an analog auditory signal of the subject at a first frequency;

means for converting the signal to a digital signal in the frequency domain;

means for altering the frequency of the digital signal within a range of about +/- 2 octaves;

means for converting the signal back to the time domain and into an analog signal; and

means for administering the frequency altered feedback signal to the user proximate in time to the receiving step.

47. A device according to Claim 45, wherein the means for administering the FAF signal comprises a portable compact device with at least one housing that is supported by the ear of the user and devoid of external cabling during normal operation, and wherein the altered auditory frequency is shifted a

desired amount within a range of between about +/- 2 octaves.

48. A method according to Claim 47, wherein the device comprises at least one of a BTE, ITE, ITC, or CIC device.

49. A portable device for treating non-stuttering pathologies having communication impairments comprising:

(a) a housing configured to be supported by the ear of a user, the housing having opposing distal and proximal surfaces, wherein at least said proximal surface is configured for positioning in the ear canal of a user;

(b) a signal processor contained within said housing, said signal processor comprising:

(i) a receiver, said receiver generating an input signal responsive to an auditory signal associated with the user's speech;

(ii) frequency altered auditory feedback circuitry operably associated with the receiver for generating a frequency altered auditory signal; and

(iii) a transmitter contained within said housing and operably associated with said frequency altered auditory feedback circuitry for transmitting a frequency altered auditory signal to the user; and

(c) a power source operatively associated with said signal processor for supplying power thereto.

50. A device according to Claim 49, wherein said device comprises an ITE housing.

51. A device according to Claim 49, wherein said device comprises an ITC housing.

52. A device according to Claim 49, wherein said device comprises a CIC housing.

53. A device according to Claim 49, wherein said device comprises a BTE housing.

54. A device according to Claim 49, wherein said signal processor is a digital programmable signal processor having externally adjustable frequency shifts.

55. A device according to Claim 49, wherein the signal processor is a digital signal processor, and wherein said receiver is a microphone, and wherein said microphone is integrated into the digital signal processor.

56. A device according to Claim 49, wherein said frequency altered auditory feedback circuitry provides a frequency shift within a range of between about +/- 2 octaves.

57. A device according to Claim 49, wherein the device is a therapeutic device used to treat a progressive neurological degenerative disease.

58. A device according to Claim 57, wherein the device is a therapeutic device used to treat Parkinson's disease.

59. A device according to Claim 49, wherein the device is a therapeutic device used to treat autism.

60. A device according to Claim 49, wherein the device is a therapeutic device to treat a reading disability, impairment, or disorder.

61. A device according to Claim 49, wherein the device is a therapeutic device used to treat at least one of aphasia, dysarthria, dyspraxia, or a brain injury to improve the communication skills of the user.

62. A device according to Claim 49, wherein the device is a therapeutic

device configured to treat a diagnosed learning disability.

63. A device according to Claim 49, wherein the device is a therapeutic device configured to treat ADD and/or ADHD.

64. A device according to Claim 49, wherein the device is configured and sized to be insertable into the ear of a child of primary school age.

65. A device according to Claim 49, wherein the device is configured and sized to be insertable into the ear of a child of preschool age.

66. A device according to Claim 49, wherein the device is configured and sized to be insertable into the ear of a teenager.

67. A device according to Claim 49, wherein the device is configured and sized to be insertable into the ear of an adult.

68. A device according to Claim 67, wherein the device is configured and sized to be insertable into the ear of a senior citizen.